



Virginal Breast Hypertrophy and Symptomatic Treatment: A Case Report

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ABSTRACT

Virginal breast hypertrophy is a rare benign disease. It is characterized by rapid and excessive growth of one or two breasts during peripubertal period. There is no specific treatment algorithm, subcutaneous mastectomy and prosthesis replacement, reduction mammoplasty, medical treatment with particularly tamoxifen are all recommended in the literature. Unfortunately, all treatment methods have some disadvantages in this patient group who have not completed their sexual and physical maturation. Although these treatments are usually required, it should be noted that spontaneous remission could rarely be seen in virginal hypertrophy. We aimed to present a case of virginal hypertrophy, in whom symptomatic treatment has been used and breast growth regressed spontaneously.

Key words: Breast, hypertrophy, adolescent gynecomastia, mammoplasty, mastectomy

Introduction

Durston (1) first reported virginal breast hypertrophy (VBH) in 1669. VBH is a rare benign breast disease, characterized by excessive and rapid growth of one or both breasts. It usually occurs within one or two years before menarche, in the peripubertal period. The cases with VBH reported in the literature are between the ages of 10-24 years (2-6). This disease is often sporadic, rare familial cases associated with congenital anonychia have been reported (7, 8).

The definitive treatment of VBH is not known. Recommended treatment methods are subcutaneous mastectomy with silicone prosthesis application, reduction mammoplasty, hormone therapy and combinations of these treatments (9). However, each of these treatments also brings additional problems in the patient group who has not completed their sexual and physical maturation.

In this case report, we aimed to present a rare condition of spontaneous cessation of breast growth in virginal breast hypertrophy and the successful outcome achieved by symptomatic treatment.

Case Presentation

A 12-year-old female patient was admitted with complaints of rapid growth in both breasts within 2 months, redness and pain and was hospitalized. On physical examination, there was increase in size in both breasts, edema, erythema, and the superficial veins were evident (Figure 1). The volumes of the right and left breasts were measured as 1300 cc and 1000 cc, respectively. Her bilateral breast and axilla examinations were otherwise normal. Her past medical and family history was uneventful. The age at menarche was 11 years. She described regular menstrual cycles in every 28 days, lasting for 6 days for the last 3 months. The breast ultrasound and magnetic resonance imaging showed thickening of the skin and subcutaneous tissue in both breasts, and glandular hyperplasia and both reports were interpreted as BIRADS 3. The abdominopelvic ultrasonography was normal. The biochemical investigations (complete blood count, biochemistry, C-reactive protein, hormone panels, thyroid hormones (FT3, FT4), thyroid stimulating hormone (TSH), follicle-stimulating hormone (FSH), luteinizing hormone (LH), estradiol, progesterone, total testosterone, prolactin, dehydroepiandrosterone sulfate (DHEAS) revealed that the patient had anemia (Hb: 10.9 and Htc: 32), and all the other values were within normal range. Breast elevation, warm dressings, and oral nonsteroidal anti-inflammatory (NSAID) therapy was initiated.

The inflammation regressed within 1 week. The surgical and medical treatment methods that can be applied to were discussed. The patient and her family were informed about the possibility of disease progression and that these treatments might still be necessary in the future.

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Figure 1. The case with virginal hypertrophy

However, due to reduced patient complaints and lack of a serious concern about cosmesis, they denied any further treatment and the patient was scheduled for close follow-up. At the 2nd and 6th month's evaluation, the breast volumes were measured and it was observed that the breast growth has stopped. The patient is planned to undergo evaluation every 6 months with physical examination, height and weight measurements, breast ultrasonography and cervical, thoracic, lumbar X-rays against the risk of kyphosis. Re-assessment for reconstruction was scheduled after the completion of pubertal and physical development, unless no recurrences or other pathologies occurred in the meanwhile.

Discussion and Conclusions

The normal physical development of the female breast is gradually completed in 3-5 years with the proliferation of all components of the organ. In contrast to this, in VBH there is a rapid and excessive amount of growth in one or both breasts despite normal levels of gonadal hormones (9).

The exact etiology is unknown, but several estrogen-related theories have been suggested. The most popular of these theories is end-organ hypersensitivity despite normal estrogen levels (3, 10).

The pathology in virginal breast hypertrophy (VBH) is limited to the breast without any other deformity in the body, with normal growth and sexual development. Due to the rapid growth of the breast mastalgia, back and neck pain, dilatation of breast's superficial veins, skin hyperemia, skin ulceration and skin necrosis may be observed clinically. Sometimes it can lead to serious psychological and cosmetic disorders (8, 11-13).

Virginal breast hypertrophy (VBH) is a rare disease and has been reported as case reports in the literature. There is no specific treatment algorithm that has been adopted. Treatment recommendations include medical, surgical treatments, and their combinations (8).

Virginal breast hypertrophy (VBH) is usually treated with surgical procedures. Surgery may be sufficient in some patients by itself, however the role of reduction mammoplasty is controversial especially due to the high rate of recurrence. Subcutaneous mastectomy and implant application is the surgical technique with the lowest rate of recurrence since all the breast tissue is removed. Nevertheless, the cosmetic results of subcutaneous mastectomy is less satisfactory than reduction mammoplasty, leaving no reserve for lactation and creating a lifetime risk of implant complications (3-5, 7, 14).

Agents used alone following or reduction mammoplasty as part of medical therapy are tamoxifen, bromocriptine, medroxyprogesterone, danazol, dydrogesterone, chorionic gonadotropin hormone and thyroid extracts. There is no proven superiority over another agent within this group. Tamoxifen is the most popular of these agents. It has been reported to stop breast growth preoperatively and to inhibit breast growth postoperatively. Unfortunately, its well-known side effects such as endometrial hyperplasia, increased endometrial cancer risk, hot flashes, increased risk of venous thrombosis, bone density changes, negative effects on cognitive function and depression limit its use (3, 5, 7, 8, 10).

When reviewing these proposed treatments, none of which is perfect, for VBH, it should be noted that spontaneous remission could rarely occur (12). In the literature, this probability and symptomatic treatment is not addressed. In our clinic, we primarily began symptomatic treatment for inflammation in a patient with VBH who lacked skin ulcers and skin necrosis. The treatment response was good and within approximately one month the growth ceased spontaneously. During follow-up spontaneous remission was not observed, but she did not have any significant physical and psychological complaints except mild back pain. Re-evaluation of the patient for reconstruction was scheduled after the completion of pubertal and physical development, unless no recurrences occurred in the meanwhile. It is thought that by performing the reconstruction in the postpubertal period, the aesthetic results will be more satisfactory and a surgical procedure capable of maintaining lactation may be applied.

The recommended medical and surgical treatments are usually required in virginal breast hypertrophy (VBH). However, considering the adverse effects of these treatments in peripubertal period, the probability of spontaneous cessation or regression of breast growth should not be ignored. In virginal hypertrophy patients with appropriate clinical status, as in this case, symptomatic treatment may be applied as a first step and the reconstruction process may be delayed until the postpubertal period.

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